

REMARKS

Claims 1-2, 4, 9-10, 13-14, 16, and 22 are amended; and new claims 25-33 are added. Claims 1-33 are pending.

The specification is amended to correct the cross-reference to the related provisional application number 60/464,315 filed April 23, 2003; and to correct the Brief Description of the Drawings regarding FIGS. 4-5.

The amendments to the specification and claims, including new claims 25-33, are based on the application as originally filed, so it is respectfully submitted that no new matter has been added.

In the office action, the preliminary amendment to the specification was objected to. The present specification has been amended to add the heading "CROSS-REFERENCE TO RELATED APPLICATIONS", and to clarify that the present application claims priority to the prior U.S. provisional application number 60/464,315, but is not a continuation-in-part application thereof. Therefore, reconsideration and withdrawal of the objection to the preliminary amendment are respectfully requested.

In the office action, the disclosure was objected to regarding the Brief Description of the Drawings in connection with FIGS. 4-5. The descriptions of FIGS. 4-5 throughout the specification have been corrected by switching the descriptions as suggested by the examiner to reflect the drawings as originally filed and labeled FIGS. 4-5. Therefore, reconsideration and withdrawal of the objection to the disclosure are respectfully requested.

In the office action, claims 2-8, 10-12, 14-20, and 22-24 were objected to, but it is stated that such claims would be allowable if rewritten in independent form.

Claims 2, 10, 14, and 22 are amended to be in independent form and to include the recitation of the base claim and any intervening claims. Accordingly, claims 2, 10, 14, and 22 are allowable.

In addition, claims 9 and 13 are amended to depend from amended claim 2, claim 21 depends from amended claim 13, and claims 3-8, 11-12, 15-20, and 23-24 depend from amended claims 2, 10, 14, and 22, respectively, and so include the recitation of amended claims 2, 10, 14, and 22, respectively. Therefore, since claims 2, 10, 14, and 22 are allowable, claims 3-9, 11-13, 15-21, and 23-24 are also allowable.

In the office action, claims 1 and 9 were rejected under 35 U.S.C. 102(b) in view of U.S. Patent Number 3,794,827 to Widess; and claims 13 and 21 were rejected under 35 U.S.C. 103(a) in view of Widess and U.S. Patent Number 4,750,157 to Shei.

Claims 9 and 13 are amended to depend from allowable claim 2, and claim 21 depends from amended claim 13, and so claims 9, 13, and 21 are allowable. Therefore, reconsideration and withdrawal of the rejections of claims 9, 13, and 21 are respectfully submitted.

Claim 1 is amended to recite the steps of:

a first step of gathering vibrator dynamic data generated in the near-surface region in response to vibrator action on the land area;

a second step of deriving a P-wave velocity attribute from the vibrator dynamic data; and

a third step of estimating the P-wave velocity using the P-wave velocity attribute to interpolate between sparse velocity measurement points from an uphole data collection technique.

Amended claim 1 is patentable over Widess since Widess does not disclose or suggest every element, step, and feature of amended claim 1, including the steps of gathering vibrator dynamic data generated in the near-surface region in response to vibrator action on the land area; deriving a P-wave velocity attribute from the vibrator dynamic data; and estimating the P-wave velocity using the P-wave velocity attribute to interpolate between sparse velocity measurement points from an uphole data collection technique.

Therefore, claim 1 as amended is patentable over Widess, so reconsideration and withdrawal of the rejection of claim 1 are respectfully submitted.

New claims 25-33 depend from at least amended claim 1, and so include the recitation of amended claim 1. Therefore, for the reasons set forth above, new claims 25-33 are also patentable over Widess, so favorable consideration and allowance of new claims 25-33 are respectfully requested.

Accordingly, entry and approval of the present amendment and allowance of all pending claims are respectfully requested.

In case of any deficiencies in fees by submission of the present amendment, the Commissioner is hereby authorized to charge such deficiencies in fees to Deposit Account Number 01-0035.

Respectfully submitted,



Anthony J. Natoli
Registration number 36,223
Attorney for applicant

Date: April 25, 2005

ABELMAN, FRAYNE & SCHWAB
150 East 42nd Street
New York, NY 10017-5612
(212) 949-9022